

REMARKS/ARGUMENTS

Claims 13-28 are pending in the application. Claims 13-16, 21-25 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway (WO 01/21956) in view of Yamac (US 4,890,395). Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac and further in view of Roethel (U.S. 1,722,825). Claims 18-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac or Lagerway in view of Yamac and further in view of Roethel. Claims 21-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Streed (US 3,332,620). Claims 26-27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac. These rejections are respectfully traversed.

I. Claim 13, as amended, recites:

“An apparatus comprising:

a power-generating wind turbine switch cabinet;

at least one power-generating wind turbine circuit element coupled to the power-generating wind turbine switch cabinet;

a drying arrangement adapted to prevent water deposition onto the at least one power-generating wind turbine circuit element, the drying arrangement including an air flow device in close proximity to the at least one power-generating wind turbine circuit element and generating an air flow moving past the at least power-generating wind turbine circuit element to counteract the water deposition onto the at least one power-generating wind turbine circuit element; and

guiding means directing the air flow from the air flow generating device past the at least one power-generating wind turbine circuit element. ”

1. Lagerway (WO 01/21956) discloses “a windmill for generating electric current with the aid of a generator driven by vanes. The rotor and the vanes are supported by a common bearing. According to the invention, the stator is positioned in a closed chamber with an air seal between the rotating part and the stationary part of the generator.” {Abstract}. The risk of condensation on the stator coil 20 is reduced further by ensuring that the generator chamber 46 contains only dry air. Various seals are provided to prevent outside air leakage into the generator chamber. The stator windings are further provided with a system for cooling the heat generated in the winding due to the electric current by circulating a cooled fluid. Additionally, the stator winding may

use the cooling path described above to circulate a heated fluid to the windings or alternatively use electric heaters in the stator windings. The heating arrangements are intended to prevent moisture formed on cold stator windings from potentially causing shorts. [FIG. 6]

A fan may force air from the machine housing into the generator chamber to maintain an superatmospheric pressure, preventing leakage of moist outside air into the generator chamber through seals and the like. The air intake path to the chamber may include a heater. An air exhaust path may be provided.

2. The Office Action cites Lagerway as reciting a machine housing 4 that teaches a power generating wind turbine switch cabinet. Applicant respectfully asserts that a machine housing is not a “power generating wind turbine switch cabinet” as cited in the claim. The machine housing is a large component that contains significant mechanical and ventilation equipment needed for the turbine. Such a machine housing is not a switch cabinet. Lagerway nowhere teaches that the machine housing 4 contains switches that are inherently part of a switch cabinet. Lagerway addresses a stator chamber 46 of FIG. 1 that encloses fixed generator windings, but no switches. Applicant respectfully submits that Lagerway does not teach a switch cabinet.

3. Further Lagerway, nowhere teaches an air flow device “*in close proximity to the at least one power-generating wind turbine circuit element*” [Emphasis added]. A fan 50 (FIG. 7) of Lagerway is external to the generator chamber 46 where the stator windings 9 and rotor windings 8 are housed, which the Office Action takes to be “power-generating wind turbine circuit element”, are disposed. Applicant respectfully asserts that the fan 50 is not in close proximity to the circuit element as claimed, but outside the generator chamber 46. As described in the specification (Pg 2, Lines 13-19; Pg 4, Lines 22-29), an essential advantage of the invention is to provide an air flow in close proximity to the circuit elements to eliminate the need for high power consumption associated with heating a full switch cabinet. Providing an air flow in close proximity to the circuit element increases the amount of airflow directly passing over the circuit element, thereby improving effectiveness in preventing condensation on the circuit element. Lagerway (Page 7, lines 18-29 specifically recites only that a superatmospheric pressure is maintained in the generator chamber by supplying air from an external machine housing 4 and that a flow into and out of the chamber might be provided. Lagerway nowhere recites providing an air flow in close proximity to the circuit element.

4. Further, Lagerway nowhere teaches “generating an air flow *moving past* the at least power-generating wind turbine circuit element to counteract the water deposition onto the at least one power-generating wind turbine circuit element” [Emphasis added].

Lagerway does recite sealing the generator chamber 46 to prevent inward leakage of outside moist air and providing a superatmospheric pressure in the generator chamber to prevent outside air from entering. However, claim 13 explicitly requires an air flow device generating an air flow “moving past” the at least one power generating wind turbine circuit element. The air flow moving past the circuit element counteracts the deposition of water. FIG. 5 of Lagerway, as cited in the Office Action, relates to a bearing lubrication unit and provides no teaching relative to Claim 13. FIG. 7 of Lagerway, as cited in the Office Action, illustrates an external air unit 16 with a blower 50 and possibly an external heater 51 to deliver low moisture content air to the generator chamber. The air inlet 52 to the chamber is positioned adjacent to the air outlet 53 of the chamber such that the superatmospheric pressure is maintained in the chamber. An air flow entering the chamber exits through the air outlet 53, which is shown in proximity to the air inlet 52.

An airflow moving past the circuit element is a critical and essential element of the present invention for effectiveness of moisture absorption from the circuit element and conservation of energy. If the air does not flow past the circuit element, then the entire chamber must be heated at great waste of energy and/or the chamber must be sealed at added cost. However in Lagerway, the airflow does not flow past the circuit element, such that the blowing over the circuit element efficiently counteracts the deposition of moisture on the circuit element. Therefore, Lagerway incurs the cost of providing and maintaining a superatmospheric pressure of dry air in the entire generator chamber and heating the entire generator chamber (Page 7. lines 18-33). This aspect of Lagerway in effect is teaching away from the approach of the present invention.

Applicant further asserts that as shown from FIG. 7 of Lagerway, the air inlet 52 into the chamber does not dispose any air to be “moving past” the circuit element taken by the Office Action to be the windings. In particular, FIG. 7 shows the inlet 52 to the chamber 46 to be in proximity to the outlet 53 such that an air flow would exit the chamber rather than moving past the circuit element, as recited in Claim 13. Lagerway provides no explicit teaching that any of the air flow “moves past” the circuit element. This is particularly relevant as to the effect cited in the specification as to air flow moving past

the circuit element being effective in preventing moisture deposition without the large expenditure of energy that would be required in Lagerway to heat and pressurize the entire chamber.

5. Further, Lagerway nowhere “teaches guiding means directing the air flow from the air flow generating device past the at least one power-generating wind turbine circuit element.” Such guiding means is explicitly described in the specification (flow guide plate 34 of FIG. 1; Page 4, lines 10-29). In fact, as previously described above, FIG. 7 of Lagerway illustrates an air flow into generator chamber 46 through inlet 52 disposed in close proximity to outlet 53. Lagerway teaches no guiding means within the chamber 46 for directing air flow past the at least one power-generating wind turbine circuit element. If anything, Lagerway teaches that airflow enters through inlet 52 and exits through outlet 53 without being guided.

6. The Office Action acknowledges that Lagerway does not teach the “guiding means” of claim 13, but asserts that Yamac provides such teaching. Yamac teaches a “a hair dryer in which the heating device, the switch, the igniting mechanism and the gas tank are provided by a conventional gas-operated pocket lighter (17) preferably equipped with a battery ignition or piezoquartz ignition or, in an alternative embodiment, by a disposable lighter using flint ignition (40). It is also within the scope of the invention to use an exchangeable gas tank, with the igniting device being fixedly arranged in the hair dryer housing. The ignition process is started as the lighter (17 or 40) is inserted into the recess (21 or 21a) of the hair dryer housing, with the blower (2) being started briefly before by contact of the laminae (18 or 18a).” [Abstract]. Yamac provides an air guide plate 3 and a baffle plate 4 internal to the hair dryer [FIG. 2]. The plates guide the flow of air within the hair dryer to an exit nozzle 20. For use, the hair dryer must then be manipulated for use to bring the exit nozzle into proximity of a user’s hair to perform the drying operation. The guides of Yamac do not guide the air to the hair of the user. Claim 13 of the present invention recites “guiding means directing the air flow from the air flow generating device past the at least one power-generating wind turbine circuit element”. The guides of Yamac do not recite guiding the air flow “from” the air flow device “past” the item to be dried, which is the full element of the claim.

7. Further the Yamani reference cited reference is from a very dissimilar field being personal grooming device whereas the present invention is in the fields of switch panels for power generating equipment and the other is a hair dryer, Applicant submits that even

if Yamac provided a relevant teaching, it would not have been obvious or reasonable to combine Yamac from such a dissimilar field with Lagerway for the purpose of teaching a “guiding means” .

8. Based on the above Lagerway alone or in combination with Yamac does not teach or suggest a guiding means directing the air flow “from” the air flow device “past ” the item to be dried.

9. In order for a claim to be properly rejected under 35 USC 103§(a), the teaching of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. Because as described in Sections 2-6 above, Lagerway alone or in combination with Yamac does not teach or suggest each and every element of Claim 13, the rejection under 35 USC 103(a) must be withdrawn and Claim 13 be allowed. Further because Claims 14-22 depend from Claim 13, for the reasons cited above, they must also be allowed.

10. Roethel (US 1722825) is a patent issued July 30, 1929 for a roof ventilator of a closed automobile body. Roethel describes a structure for ventilating the inside of an automobile with a fan while preventing outside rain and snow from entering (Col 1 lines 6-20).

11. Roethel does not teach a power-generating wind turbine switch cabinet. Roethel does not teach at least one power generating wind turbine circuit element coupled to the power generating wind turbine switch cabinet. Roethel does not teach a drying arrangement adapted to prevent water deposition onto the at least one power generating wind turbine circuit element. Roethel does not teach a drying arrangement including an air flow device in close proximity to the at least one power-generating wind turbine circuit element or moving past the at least one power-generating wind turbine circuit element to counteract water deposition on the circuit element. Roethel does not teach guiding means for directing the air flow from the air flow generating device past eh at least one power generating wind turbine circuit element. Roethel alone or in combination with Lagerway similarly fails to remedy the deficiencies cited above with respect to Claim 13.

12. Streed (US 3,332,620) recites a humidity control device to prevent condensation on the formation on the exterior surfaces of buildings due to cold external temperatures (Col. 1, lines 7-13). As with Roethel, Streed does not teach a power-generating wind turbine switch cabinet. Streed does not teach at least one power generating wind turbine circuit element coupled to the power generating wind turbine switch cabinet. Streed does not teach a drying arrangement adapted to prevent water deposition onto the at least one power generating wind turbine circuit element. Streed does not teach a drying arrangement including an air flow device in close proximity to the at least one power-generating wind turbine circuit element or moving past the at least one power-generating wind turbine circuit element to counteract water deposition on the circuit element. Streed does not teach guiding means for directing the air flow from the air flow generating device past the at least one power generating wind turbine circuit element. Streed alone or in combination with Lagerway and Roethel similarly fails to remedy the deficiencies cited above with respect to Claim 13.

II. Claim 14, as amended recites:

“The apparatus of Claim 13, wherein the drying arrangement further comprises:
At last one heating device in close proximity to the at least one power-generating wind turbine circuit element adapted for heating an air passing by the at least one power-generating wind turbine circuit element, wherein the guiding means further directs the air flow from the air flow generating device past the at least one heating device.”

1. Applicant respectfully submits that Lagerway, alone or in combination with Yamac Roethel and/or Streed fails to teach the heating device in close proximity to the at least one power generating wind turbine circuit element. As described with respect to claim 13, the heating element for *heating air* is not in close proximity to the “element”, but external to the compartment with the stator. [Emphasis added]. Lagerway also recites a heating fluid passing within the stator. Here the heating element is not in proximity (definition- being close together) to the stator (circuit element), it is part of the circuit element or is within the circuit element. The combination further fails to teach air

passing by the circuit element. The combination further fails to teach guiding means directing the air flow from the air flow generating device past the heating device. Neither Yamac, nor Roethel, nor Streed, remedy these deficiencies. Applicant respectfully requests that the rejection of claim 14 be withdrawn and the claim be allowed.

III. Claim 15 recites: “The apparatus of claim 13 or 14, wherein the drying arrangement further comprises:

a cooling element to separate water from air flowing by, the cooling element being spaced apart from the at least one power-generating wind turbine circuit element; and

a drain element to drain the water deposition out of the power-generating wind turbine switch cabinet.”

1. The Office Action is rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac . The Office Action cites Lagerway (Page 6, lines 14-29) as teaching cooling and drain elements. The cited passages, however, fail to recite anything about a drain element. The cited passages also fail to recite anything about a cooling element separating water from the air flowing by. The only cooling element recited is an element within the stator (taken by the Office Action to be the wind turbine circuit element) for cooling the stator and not a cooling element for separating water from the air flowing by as recited in the claim. Yamac fails to remedy these deficiencies. Roethel and Streed also fail to remedy these deficiencies.

2. Because neither Lagerway nor Yamac, nor Streed, alone or in combination, teach or suggest the elements cited above, the rejection of claim 15 under 35 USC 103(a) cannot stand. Applicant respectfully requests that the rejection of claim 15 be withdrawn and the claims allowed.

III. Claim 16 recites:

“The apparatus of Claim 15, wherein the air flow device further generates an air flow

circulating within the power-generating wind turbine switch cabinet and the guiding means directs the air flow past the at least one power-generating wind turbine circuit element and the cooling element.”

1. For the reasons cited above in I.2 to 6 above, Applicant respectfully submits that Lagerway, alone or in combination with Yamac, Roethel or Streed fails to teach or suggest the guiding means directs the air flow past the at least one power-generating wind turbine circuit element and the cooling element. Applicant respectfully requests that the rejection of claim 16 under 35 USC 102(a) be withdrawn and the claim be allowed.

IV. Claim 17 recites “The apparatus of claim 15, wherein a Peltier element includes the at least one heating device and the cooling element.” Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac and further in view of Roethel.

1. It is not clear what aspect of Claim 17 that the rejection is addressing, but the Office Action acknowledges that Lagerway and Yamac fail to disclose a cooling element 28 to separate water from air flow by, the cooling element being spaced apart from the at least one circuit element [This appears to be part of claim 15 upon which claim 17 depends] so the response also pertains to claim 15].

2. The Office Action cites Roethel as disclosing a cooling element 28. Element 28 of Roethel is a fan for moving air [Page 2, line 53] and not a cooling element. The Office Action also cites Page 2, line 15 [of Roethel?] but it is unclear to what end. Page 2, line 15 of Roethel cites a barrier in a roof ventilation unit as blocking rainwater from entering the unit. Applicant can see no relevance in regard to cited cooling unit or to drain.

3. If the above rejection relates to Claim 15, then the combination of cited references fails

to disclose the cooling elements and drain elements. If the above rejection relates to Claim 17, then it fails to address the Peltier unit with heating and cooling elements.

4. Because Lagerway, alone or in combination with Yamac and Roethel or Streed fails to teach or suggest all elements of Claim 17 (15), the rejection of claim 17(15) under 35 USC 102(a) cannot stand. Applicant respectfully requests that the rejection of claim 17(15) under 35 USC 102(a) be withdrawn and the claim be allowed.

V. Claims 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view of Yamac or Lagerway in view of Yamac and further in view of Roethel. Claims 19-20 recite in part a plate-like flow guidance element. The Office Action makes no reference to “a plate-like” flow guidance element in Lagerway, Yamac, Roethel or Streed. Further, a reading of the preceding references reveals no plate-like guidance element. The Office Action further makes no reference to the structural relationship cited in claims 19 and 20 between the turbine circuit element, the flow guidance element and the peltier element. Because neither Lagerway, Yamac, Roethel or Streed, alone or in combination, teach or suggest the elements cited above, the rejection of Claims 19-20 under 35 USC 103(a) cannot stand. Applicant respectfully requests that the rejection of claims 19-20 be withdrawn and the claims allowed.

VI. Claim 22 recites “The apparatus of claim 13, wherein the at least one power-generating wind turbine circuit element controls an operation of the wind turbine.”

1. Claims 21-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lagerway in view Yamac in view of Streed (US 3,332,620). Streed recites a humidity control device to prevent condensation on the formation on the exterior surfaces of buildings due to cold external temperatures (Col. 1, lines 7-13). The Office Action makes reference to a “humidity circuit element” of Streed, but does not recite how this humidity element represents a “wind turbine circuit element control[ling] an operation of the wind turbine”. The wind turbine circuit element is the element in the switch cabinet being protected, not the control element (humidity circuit element) associated with

protecting the wind turbine circuit element. Because neither Lagerway, Yamac, nor Streed, alone or in combination, teach or suggest the elements cited above, the rejection of Claims 19-20 under 35 USC 103(a) cannot stand. Applicant respectfully requests that the rejection of claims 19-20 be withdrawn and the claims allowed.

VII. Claim 23, as amended, recites:

“controlling an operational parameter of a power-generating wind turbine by at least one power-generating wind turbine circuit element coupled to a power-generating wind turbine switch cabinet;

generating an airflow in the internal space of the power-generating wind turbine switch cabinet flowing past the at least one power-generating wind turbine circuit element using an air flow generating device to counteract a deposition of condensation water onto the at least one power-generating wind turbine circuit element; and

guiding the generated airflow past the at least one power-generating wind turbine circuit element by guiding means.”

1. The Office Action asserts that Lagerway discloses the limitation “controlling an operational parameter of a power-generating wind turbine by at least one power-generating wind turbine circuit element coupled to a power-generating wind turbine switch cabinet” of claim 23, citing Page 9. lines 3-34. The operational parameters cited in the passage may be controlled through switch elements but nowhere does Lagerway disclose that these switch elements are in switch cabinets provided with any drying arrangement or air flow arrangement. The switch cabinet that houses the stator winding does not control an operational parameter. The switch cabinet disclosed in the present application is a static circuit element (stator winding). Based on the above, Lagerway fails to disclose the “controlling” element of the claim 23.

2. For the reasons cited above with respect to Claim 13, Lagerway does not teach generating an airflow in the internal space of the power-generating wind turbine switch cabinet *flowing past the at least one power-generating wind turbine circuit element* using

an air flow generating device to counteract a deposition of condensation water onto the at least one power-generating wind turbine circuit element [Emphasis added].

3. The Office Action cites Lagerway Page 9 line 35 to Page 10, line 28 as teaching “generating an airflow in the internal space of the power-generating wind turbine (pgwt) switch cabinet flowing past the at least one power-generating wind turbine circuit element using an air flow generating device to counteract a deposition of condensation water onto the at least one power-generating wind turbine circuit element;”. The referenced passage relates to FIG. 8. FIG. 8 illustrates an alternate arrangement for an air channel 56 (not shown but like reference number 56 of FIG. 1) associated with the heat exchanger for cooling the stator windings with a medium other than the airflow passing through channel 56. The air channel 56: 1) does not flow in the internal space of the pgwt switch cabinet, 2) does not flow past the pgwt circuit element, and does not 3) use an air flow generating device to counteract deposition of condensation water onto the pgwt circuit element.

See Page 10, lines 1-3 that discloses seals 26, 58 on generator chamber 46 (which keep the generator chamber sealed and isolated from air in heat exchanger path of FIG. 8).

4. The description of FIG. 7 on page 10 lines 11-28 does nothing to remedy the deficiency. The passage discloses that an overpressure is created in the generator chamber 46 but as previously stated with respect to claim 13, there is no disclosure that the flow is past the pgwt circuit element and in fact the diagram teaches away from that conclusion by showing the entrance and exit for the air flow in proximity to each other.

5. Providing an overpressure in a chamber as is done by Lagerway is not the same as flowing the airflow past the circuit. Such overpressure, does not provide the same effect as a direct flow past the circuit element. Similarly, Lagerway does not teach guiding the generated airflow past the at least one power turbine circuit element by guiding means. As previously described with respect to Claim 13, Lagerway does no guiding within the chamber and the airflow is not over the circuit element, but according to FIG. 7 likely exits the chamber near the entrance. Whereas the present invention enhances the

absorptive effect of a directed air flow on moisture in the cabinet by a guiding means, Lagerway does not and is therefore not efficient, resulting in a larger consumption of energy, as previously described.

6. Because as described above Lagerway in combination with Yamac does not teach or suggest each and every element of Claim 23, the rejection under 35 USC 103(a) must be withdrawn and Claim 23 be allowed. Further, for the reasons cited with respect to Claim 13, neither Roethel nor Streed acting alone or in combination with Lagerway or Yamac remedies those deficiencies.

7. Given that claims 24-28 depend from independent claim 23, which is patentable as discussed above, Applicant respectfully submits that dependent claims 24-28 are also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 24-28 under 35 USC §103(a) be withdrawn. Applicant submits that claims 23-28 are in condition for allowance and such action is respectfully requested.

VIII. Claim 24, as amended, recites:

“guiding the generated airflow past a heating device by guiding means;
heating an air in close proximity to the at least one power-generating wind turbine circuit element; and
guiding the heated airflow past the at least one power-generating wind turbine circuit element by guiding means.”

1. As described above with respect to Claim 13, Lagerway does not teach guiding the generated airflow past a heating device by guiding means or a guiding means. Lagerway does not teach heating an air in close proximity to the circuit. Further Lagerway does not teach guiding the generated airflow past the circuit element. The above elements of the present invention all advantageously counteract the deposition of moisture on the circuit element and are not taught by Lagerway.

2. Because Lagerway does not teach each and every element of Claim 24, Applicant respectfully requests that the rejection of Claim 24 under 35 USC 103(a) be withdrawn

Serial No.:10/529,123

and the claim allowed. Further for the reasons cited above, neither Roethel nor Streed alone or in combination with Lagerway teaches each and every element of Claim 24.

In view of the foregoing, Applicant respectfully submits that the application is in order for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

The Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account 070849 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly for continued examination fees and extension of time fees.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, please contact the undersigned at the phone number listed below.

Respectfully submitted,

September 9, 2010
Date

/Edward J Smith/
Edward J. Smith
Reg. No. 55,631

General Electric Company
1 River Road
Schenectady, New York 12345
Telephone: (518) 385-2822